

Appl. No. 10/812,346
Amdt. Dated July 26, 2005
Reply to Office Action of May 10, 2005

Attorney Docket No. 81754.0120
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device, comprising:
a substrate provided with terminals for connecting conductive wires;
a first semiconductor chip mounted face up on the substrate and electrically connected to the terminals provided on the substrate by the conductive wires; and
a second semiconductor chip having a projecting part formed on a rear surface thereof and mounted attached onto the first semiconductor chip via the projecting part; and
insulating resin that attaches the second semiconductor chip onto the first semiconductor chip via the projecting part.
2. (Cancelled)
3. (Withdrawn) The semiconductor device according to claim 2, wherein filler is mixed in with the insulating resin.
4. (Original) The semiconductor device according to claim 2, wherein the insulating resin fills at least part of a region of a stepped part in which the projecting part is provided.

5. (Original) A semiconductor device, comprising:
a substrate provided with terminals for connecting conductive wires;
a first semiconductor chip mounted face up on the substrate; first electrode pads provided on the first semiconductor chip;

first conductive wires electrically connecting the first electrode pads to the terminals provided on the substrate;

a second semiconductor chip having a projecting part formed on a rear surface thereof;

second electrode pads provided on the second semiconductor chip; insulating resin enclosing the first conductive wires on the first semiconductor chip and attaching the second semiconductor chip onto the first semiconductor chip via the projecting part;

second conductive wires electrically connecting the second electrode pads and the terminals provided on the substrate; and

sealing resin sealing the first semiconductor chip to which the first conductive wires are connected and the second semiconductor chip to which the second conductive wires are connected.

6. (Original) A semiconductor device, comprising:

a substrate provided with terminals for connecting conductive wires;

a first semiconductor chip mounted face-up on the substrate;

first electrode pads provided on the first semiconductor chip;

first conductive wires electrically connecting the first electrode pads to the terminals provided on the substrate;

a second semiconductor chip having a projecting part formed on a rear surface thereof;

second electrode pads provided on the second semiconductor chip;

insulating resin provided between the first semiconductor chip and the second semiconductor chip so as to be present at least below the second electrode pads and attaching the second semiconductor chip onto the first semiconductor chip via the projecting part; and

second conductive wires electrically connecting the second electrode pads to the terminals provided on the substrate.

7. (Original) The semiconductor device according to claim 1, further comprising an insulating layer formed on an entire rear surface of the second semiconductor chip including the projecting part.

8. (Withdrawn) The semiconductor device according to claim 1, wherein at least part of a region of the projecting part is formed so as to widen towards a surface on which the projecting part is formed.

9. (Withdrawn) The semiconductor device according to claim 1, wherein a size of the second semiconductor chip is larger than a size of the first semiconductor chip.

10. (Withdrawn) A semiconductor device comprising:
a substrate provided with terminals for connecting conductive wires;
a first semiconductor chip mounted as a flip "chip on the substrate";
a second semiconductor chip mounted face up on the first semiconductor chip via an adhesive layer;
first conductive wires electrically connecting the terminals provided on the substrate and the second semiconductor chip;
a third semiconductor chip having a projecting part formed on a rear surface thereof and attached onto the second semiconductor chip via the projecting part; and
second conductive wires electrically connecting the terminals provided on the substrate and the third semiconductor chip.

Appl. No. 10/812,346
Amdt. Dated July 26, 2005
Reply to Office Action of May 10, 2005

Attorney Docket No. 81754.0120
Customer No.: 26021

11. (Currently Amended) An electronic device comprising:
a substrate provided with terminals for connecting conductive wires;
a first electronic component mounted face up on the substrate and electrically connected to the terminals provided on the substrate by the conductive wires; and
a second electronic component having a projecting part formed on a rear surface thereof and mounted attached onto the first electronic component via the projecting part; and

insulating resin that attaches the second electronic component onto the first electronic component via the projecting part.

12. (Withdrawn) An electronic appliance comprising:
a substrate provided with terminals for connecting conductive wires;
a first semiconductor chip mounted face-up on the substrate and electrically connected to the terminals provided on the substrate by the conductive wires;
a second semiconductor chip having a projecting part formed on a rear surface thereof and attached onto the first semiconductor chip via the projecting part; and
an electronic component electrically connected to the first semiconductor chip and the second semiconductor chip via the substrate.

13.-20. (Canceled)

21. (New) The semiconductor device according to claim 1, wherein the insulating resin comprises at least one of an insulating paste-type resin and an insulating sheet-type resin.

Appl. No. 10/812,346
Amdt. Dated July 26, 2005
Reply to Office Action of May 10, 2005

Attorney Docket No. 81754.0120
Customer No.: 26021

22. (New) The semiconductor device according to claim 1, wherein the insulating resin comprises at least one of an insulating epoxy resin, an insulating acrylic resin, and an insulating maleimide resin.

23. (New) The semiconductor device according to claim 1, wherein the thickness of the second semiconductor chip is approximately 50-200 μm .

24. (New) The semiconductor device according to claim 1, wherein the thickness of the projecting part is approximately 30-150 μm .